6/12/84
C8650-4A

Volume 62, Number 6
June 1984

09635 1984301 W 3 2046
SUITE 800 COPY # 1
STATISTICAL REFERENCE IND
CONGRESSIONAL INFO SVC D
4520 EAST-WEST HWY STE 800
BETHESDA MD 20814

Electric Light & Power

THE NEWS MAGAZINE OF ELECTRIC UTILITY MANAGEMENT AND TECHNOLOGY

WPPSS No. 2 produces power

Washington Public Power Supply System's nuclear plant-2 has been brought into its rated operating conditions. The plant was authorized for full power operation by the Nuclear Regulatory Commission in April. The Atomic Industrial Forum reports that 1984 should be a banner year for new nuclear plants. In recent months, the NRC has authorized full power operation at Commonwealth Edison's LaSalle-2, given Pennsylvania Power & Light's Susquehanna-2 approval to test at five percent power and has issued Pacific Gas & Electric's Diablo Canyon-1 a start-up license.

Rep. Harkin, utility critics seek to kill 'phantom tax' laws that aid financing

WASHINGTON, D.C.—Like frightful spirits at Halloween, the issue of electric company "phantom taxes" has again risen from the corporate grave of dead concerns.

The spectre of the industry losing certain cherished tax benefits has scared utility executives before, but each time they have been successful in sealing up those spirits before they had a chance to become part of federal tax policy.

This time, however, things could be different. Rep. Tom Harkin (D.IA) has taken upon himself the job of chief exorcist, and the House legislator appears committed to doing away with these phantom taxes once and for all.

Utility executives prefer to attribute the financial benefits they currently receive to "deferred taxes" rather than "phantom taxes." But however characterized, the utility industry stands to lose billions of dollars in what amounts to zero interest loans from electricity ratepayers.

"The Phantom Tax Reform Act allows utility commissioners to remove an incentive which not only raises electric rates, but also encourages investor-owned utilities to build power plants costing billions of dollars which may not be needed," Harkin told his fellow legislators earlier this year.

Predictably, utility industry officials disagree with this thesis.

Dollar amounts uncontested

Although one informed Washington observer said that the Edison Electric Insitute, the association of electric utilities, intends to "pull out all the stops" in opposing this legislation, there does not appear to be any disagreement among the contestants over the value of current tax laws to the electric utility industry.

"With the [electric] power industry collecting billions of dollars in phantom taxes annually, the money contained in their deferred tax accounts is skyrocketing," notes the Environmental Action Foundation (EAF) in its April, 1984 analysis of electric utility taxes for 1982.

The EAF, which is the prime mover behind the Harkin tax reform bill, surveyed federal income tax expense data contained in Form 1 annual reports filed with the Federal Energy Regulatory Commission by 150 largest investor-owned electric companies. It was found that at the end of 1982, these utilities were holding $19 billion in accumulated deferred taxes and $10.4 billion in accumulated deferred investment tax credits (ITC's)—a total of $29.4 billion.

The EAF report then quotes a figure, attributed to EEI, representing *current* accumulated revenues—$34 billion. This figure was confirmed by an EEI spokesman.

The EAF calculates that in effect electric utilities are therefore collecting $405 from every household in the U.S. and holding that money for extended periods for their own use.

Continued on page 25

N.J. commission withdraws penalty as EPRI agrees to 'support' U.S. research

When is a commitment not a commitment?

Dan Utroska
Associate Editor

Agreement appears to have been reached between the Electric Power Research Insitute and the New Jersey Board of Public Utilities over the granting of EPRI funds to support feed pump research by American pump suppliers.

A controversy over EPRI contractual procedures arose last March when the BPU, angered by the fact that EPRI had awarded a $5.7 million research contract to a Swiss pump company at the expense of New Jersey and other American companies, disallowed the full cost of the contract in the annual expenses of Public Service Electric & Gas Company.

Specifically, the board prohibited company use of money collected from ratepayers for PSE&G membership in EPRI up to the full $5.7 million value of the research contract (see *EL&P*, May 1984, page 1).

Believing that it has now extracted from EPRI a commitment to support domestic research in feed pump technology by approximately the amount of the original foreign contract, the New Jersey BPU has withdrawn its opposition to the payment of $5.7 million in membership fees by PSE&G.

The extent to which EPRI has agreed to support American pump research has become a critical component in the apparent resolution of the conflict.

BPU Commissioner Edward Hynes, who had led the board's inquiry in EPRI's contract procurement policies, reads the EPRI declaration of support as "a total commitment to fund this [pump research] consortium."

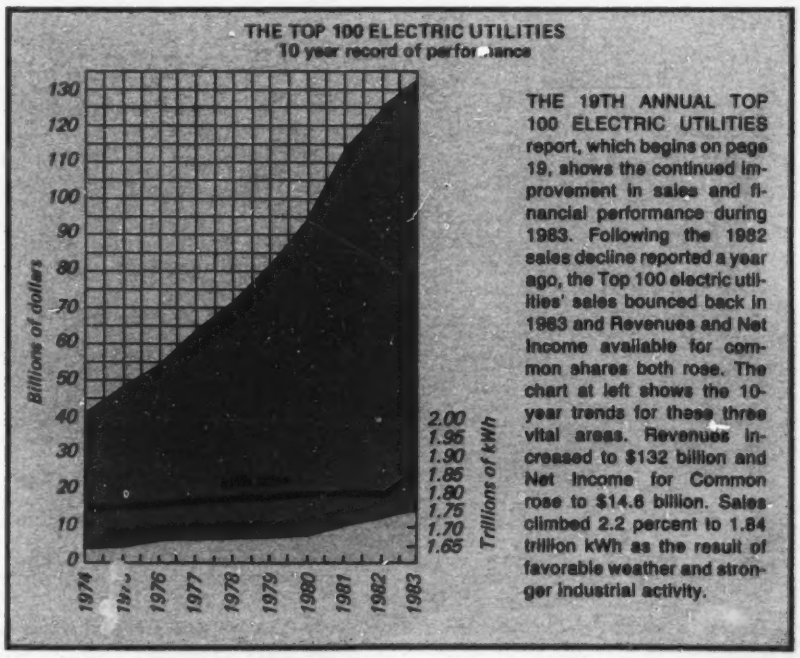
As reported, a research group has been formed by five American pump suppliers. The consortium, called Pradco (Pump Research and Development Co.), reportedly had been in discussion with EPRI to obtain partial funding for its work when the New Jersey board declared its sanctions against Public Service Electric & Gas. Presently, the group is awaiting approval from the Justice Department concerning anti-trust matters.

In response to the New Jersey board's action escrowing PSE&G membership fees to EPRI, institute president Floyd L. Culler on April 4 wrote to Hynes outlining the research organization's support for the pump research consortium.

"...[T]he prospects for improvements in feed pump reliability are of sufficient importance to the electric utility industry that EPRI is clearly committed to pursuing such a program with Pradco, or with individual U.S. companies if Pradco fails to materialize," Culler said in his letter.

"We have not been able to arrive at firm cost because we have no project estimates from Pradco and must still reach a mutual agreement on a program that the pump companies and EPRI consider to be useful and pro-

Continued on page 16



THE 19TH ANNUAL TOP 100 ELECTRIC UTILITIES report, which begins on page 19, shows the continued improvement in sales and financial performance during 1983. Following the 1982 sales decline reported a year ago, the Top 100 electric utilities' sales bounced back in 1983 and Revenues and Net Income available for common shares both rose. The chart at left shows the 10-year trends for these three vital areas. Revenues increased to $132 billion and Net Income for Common rose to $14.6 billion. Sales climbed 2.2 percent to 1.84 trillion kWh as the result of favorable weather and stronger industrial activity.

Foreign Power Briefs

• **Seventeen companies** representing the utilities and reactor manufacturing and engineering industries of Japan have agreed to contribute $18 million to the U.S. Department of Energy's Three Mile Island Unit 2 research and development program. DOE said that the Japanese companies also agreed to provide approximately 100 man-years of engineering assistance over the next five years. Up to 22 Japanese engineers and scientists will participate in the TMI-2 R&D activities. Assistant Secretary for Nuclear Energy Shelby T. Brewer said, "Our success in gaining Japanese participation in the TMI-2 R&D effort is an example of our intent to continue to press toward major international collaboration efforts related to nuclear energy. In this way, individual nations need not bear the full cost of expensive R&D efforts and the benefits obtained are more widely available."

• **The Egyptian Electric Authority** has awarded a $117-million contract to General Electric Company for the construction of a 150,000-kW steam plant. GE said the plant will supply electricity to the Ismailia and Suez regions of the country. The power plant is scheduled to go on-line in late 1986. GE said the contract was largely funded by the U.S. Agency for International Development.

• **The Atomic Industrial Forum** (AIF) reports that 20 new nuclear power plants went into service in ten foreign countries last year. AIF says there are now 227 nuclear reactors abroad. Six new reactors were ordered in foreign countries last year. AIF President Carl Walske said the growth in nuclear power abroad "demonstrates that the world commitment to nuclear energy is solid, and that nuclear electricity will continue to make a vital contribution to the economy abroad as well as in this country." The AIF said that its annual survey of nuclear power outside the U.S. found that nuclear capacity grew nearly 15 percent from 105,283 MW to 120,823 MW last year, nearly double 1982's growth rate. New reactors went into operation in France (five), the Soviet Union (four), Canada, South Korea and Spain (two each), and one each in Argentina, Belgium, Hungary, Sweden and India.

• **Ontario Hydro's** Pickering Unit 6 was placed into service in February, two months ahead of schedule. The utility reports the unit had been undergoing extensive testing since November of last year.

• **Asia's second largest transmission line**, a $400-million, 500-kV line in Pakistan, was inaugurated in April by Pakistan President General Muhammad Zia-ul-Haq, reports Hazra Engineering Company, engineering consultant for the project. Built by Pakistan's Water and Power Development Authority, the 1,300-kilometer line runs north to south across the country, starting at the Tarbela hydroelectric power station and terminating at Jamshoro in the Province of Sind. The project was divided into three stages. The first was completed in 1979 and the second stage in 1981. This month, a 220-kV line will connect the project with Karachi, Pakistan's largest city.

• **The Spanish government** has told utilities to put aside almost 7 percent of their revenues as insurance to offset rising debts. *The Wall Street Journal* reports that Industry Minister Carlos Solchaga said utilities must deposit 2.8 percent of their overall sales into a fund to guarantee they will remain solvent. Solchaga also ordered the utilities to increase their contributions to a fund used to finance nuclear investments to 3.9 perent of revenue from 2.89 percent.

In This Issue

Editorial 4

Calendar 13

19th Annual Top 100 Electric Utility Report focuses on the sales and financial achievements of the nation's largest investor-owned electric companies. 19

Electric utility fleet managers soon may have to decide whether to include electric vehicles in their fleets. 25

Superconducting generator development in the U.S. is winding down as utilities appear to lose interest.G 34

Results are in from the first cooperative project at EPRI's transmission tower test facility.T/D 38

Utility interest in large-scale fuel cells appears to be picking up with several new installations planned.G 53

Readers' Service 71

New Products 74

Bulletin Board 77

Personnel 79

Regulatory Review 80

Management Methods 82

EL&P readers whose responsibilities include both Generation and Transmission/Distribution receive both technology sections. Other readers receive the technology section that applies to their respective area of responsibility. The Generation edition is indicated by a single dot (•) in the upper right corner of page 1; the T/D edition carries two dots (••). All readers receive EL&P's industry news section.

Industry tries to refocus public relations programs

EEI admits ad campaign was ill-conceived

Dan Utroska
Associate Editor

Amidst the admission by the Edison Electric Institute that its earlier media ad campaign against utility regulators was ill-advised, and the growing scrutiny of electric company expenditures, by the regulatory community itself the electric utility industry is working hard to come up with a program that will improve public opinion and help pave the way for the construction of more nuclear power plants.

Referring to EEI's 1981-82 ad campaign aimed at regulators, EEI Senior Vice President for Economics and Finance Douglas C. Bauer said, "It's my personal position that if we had those ads to do again, we wouldn't do them. I think it was a mistake."

Testifying on April 11, 1984 on behalf of Florida Power & Light Company before the Florida Public Service Commission, Bauer was pressed on the matter by state commissioner John R. Marks, III. "Now, we know your personal position on it. What is EEI's position on it?" he asked.

"I have a certainty of 0.9 or above that that's my boss' position, and I don't know beyond that...," Bauer said. [In probability calculations, 1.0 is a surety.]

In November, 1981, a two-page spread in which former state utility regulatory commissioner Charles J. Cicchetti declared, in part, that electric utilities had become political scapegoats and that this largely was attributable to "restrictive regulatory policies and procedures" was the first salvo in a multi-million media advertising blitz aimed at state regulators.

The ad had been sponsored by the Edison Electric Institute.

"Adverse Regulation Hinders Utilities in Capital Markets," *The Wall Street Journal* boomed in 96-point type on January 14, 1982. "Electric Utility Users Will Pay For Adverse Utility Regulation," *The Wall Street Journal* screamed on February 9. And on April 12, the message was "Everyone Pays for Adverse Utility Regulation."

The messages carried a common refrain: rates of return allowed to utility companies by state regulators were too low to permit economical access to capital markets for new plant and to enable companies to assure customers an adequate, reliable source of electricity for the future.

Addressing the lessons from that ad campaign, EEI's Doug Bauer said, "But I think we have learned a lot from that...and I think you will see that the themes that are occurring now are not those kinds of themes. They are themes that we think are more balanced and helpful in the effort of connecting with customers and getting sensible things to happen."

Included in these new themes is one that seeks to communicate to ratepayers the value of electricity, Bauer said in earlier testimony. "It's important," he said, "...that if people understand that when they turn a lightswitch on they're making a choice, [then] that is going to help ...the company to connect with its customers and undertake those kinds of demand side activities, including load management and load shifting, that can help lessen the bill of the customer."

Other elements also are to be part of this new approach, Bauer said. Pointing out to customers, for example, how captive shipping of coal can raise electric rates and how the industry is working to counter such escalations, is seen to be primarily in the interest of ratepayers and is to be part of EEI's on-going Media Communications Program.

Ramifications still occurring

Unfortunately for the electric utility industry, it may be considerably easier to turn around a public relations program than to sidestep the deleterious effects of a previously ill-conceived one.

The day after EEI's first media blitz program in November, 1981 one regulator attending the NARUC conference was asked his response to the institute's program. After pointing out that the ad campaign was an inappropriate way to reach the public because the ads were not sufficiently fundamental to describe what the so-called financial crisis was all about, this regulator offered, "I'll now begin to scrutinize more carefully utilities' constributions to EEI."

Full-blown investigation

Such a sentiment has now ripened into a full-blown investigation, at the national level, on how much of EEI dues ought to be recoverable from ratepayers (see *EL&P*, February 1984, page 1 and April 1984, page 1).

The most recent development in this on-going probe is EEI's March 1 letter to John Gibbons, chairman of the NARUC Staff Subcommittee on Accounts. The subcommittee is conducting the inquiry. The letter reveals the amounts that EEI has contributed to the U.S. Committee on Energy Awareness and how ratepayers have in part funded EEI's new national marketing program, "Electricity: It's the Power of Choice."

NARUC investigators have been very interested in the relationship of EEI and CEA and whether or not CEA has been getting money for use in pro-nuclear advertising from the nation's ratepayers. EEI vehemently maintains that funds collected from member utilities and distributed to CEA are voluntary contributions and are not collected as part of member companies' dues.

$9.3 million contributed

The March 1 letter shows that from 1979 through 1981 some $9.3 million was contributed to CEA via the budget of the Utility Nuclear Power Oversight Committee (UNPOC) set up by the industry after the Three Mile Island accident to represent the entire electric utility industry in issues of concern.

According to EEI's Douglas Bauer, who authored the letter to Gibbons, UNPOC solicited funding to support advocacy of these generic issues, although this money was "independent of EEI dues."

"EEI administered only the portion of UNPOC funds provided by investor-owned utilities [as opposed to the public power sector or co-operatively-owned utilities] and some contributions from concerned vendors."

In 1982, $2.5 million was contributed to CEA from EEI, but here too, EEI maintains that this money was contributed from its Media Communi-

Continued on page 67

Most major utilities' 1983 performances improved; financial positions strengthened

Robert A. Lincicome
EL&P Editor-in-Chief

1983 was a good year for most of the the nation's Top 100 investor-owned electric utilities. For most, the improvement continued from where 1982 left off. Blessed with an improving economy, favorable weather conditions, rate relief on prior-year results and the effect of continued cost-control measures, most of the Top 100 were able to improve their financial positions from those posted for the previous year.

The strong performance of the Top 100 electric utilities in 1983 reflected the third consecutive year of improvement.

The performance of the Top 100 electric utilities during the year started slowly, limped along until a pickup began in June fueled by both an early summer heat wave and improvement in industrial activity, continued to gain through the third quarter and into the fourth quarter, and then received another boost from exceptionally cold weather in December to finish the year strongly.

While overall performances were good in 1983, there were, however, areas of continuing concern. One of these was an increase in the portion of net income available for common stockholders represented by allowance for funds used during construction (AFUDC). AFUDC contributes to earnings, on paper, but produces no cash flow and thereby depreciates the quality of a utility's earnings. In some cases, AFUDC represents more than 100 percent of a utility's earnings, which in some cases has contributed to (at least) short-term cash crunches for the utility managements involved. The bright side of this development is that, according to the Edison Electric Institute, the rate of increase in AFUDC from quarter to quarter appeared to be declining as the year concluded.

Also, although the total amount of long-term debt increased during the year, 30 of 99 reporting utilities actually reduced their long-term debt and 61 of 99 reporting utilities reduced the portion of net utility plant covered by debt.

The Top 100 electric utilities produced total revenues of $132.0 billion in 1983. This represents a new record and is 7.0 percent ahead of 1982 revenues. This represents largely the impact of more-severe-than-normal weather and the mid-year resurgence of industrial activity, especially in the heavily-industrialized north central states. The increase in revenues also reflected rate increases granted by state public utility commissions to rate requests on earlier test years. In addition, the revenue figure also included collections made under fuel adjustment clauses and the net effects of subsidiary activities.

These higher revenues resulted from record sales of 1.843-trillion kilowatthours. This total was 2.2 percent ahead of 1982 and marginally ahead of the previous sales record of 1.842 kWh achieved in 1981. KWh sales had declined in 1982 for the first time since initiation of the Top 100 electric utilities survey in 1966.

The 2.2 percent in kWh sales came on an increase in the total number of customers of more than 1.2 million or 1.7 percent over 1982.

Net incomes of the Top 100 electric utilities climbed in 1983 to $14.6 billion, an increase of 18.7 percent. That net incomes increased substantially faster than revenues is a reflection of the continued cost-control efforts of utility managements and overall increased utility productivity, despite fuel costs that were up slightly. The gain, however substantial, was the lowest in the last three recovery years. In 1981, net incomes increased 22.2 percent. In 1982 the increase fell to 20.6. The gain of 18.7 percent in 1983 reflected both the increase in shares outstanding and the maturation of the recovery.

Per-share earnings were up 8.0 percent, to an average $3.24 per share. In 1982, earnings increased 6.4 percent to $3.00 per share. In 1981, the first year of substantial recovery for the Top 100 electric utilities, earnings were $2.52.

Kilowatthour sales by the Top 100 electric utilities bounced back in 1983, increasing 2.2 percent, the same nominal amount they fell a year earlier. The recovery, however, was fractionally larger than the decline in 1982 and pushed total sales to a new record of 1.843 trillion kWh, marginally ahead of the previous record of 1.842 trillion kWh established in 1981.

The first quarter of 1983 was characterized by milder-than-normal weather and the continued recessionary level of industrial activity, with all levels of kWh sales down from the first quarter of 1982. During the second quarter of the year, industrial ac-

EARNINGS GROWTH STATISTICS

Company Name	Rank	% Change From 1982	1983 Earnings Per Share
Missouri Public Service	6	50.99	$3.05
Kansas City Power & Light	7	48.75	$4.15
Iowa Public Service	8	47.11	$3.31
Northeast Utilities	9	34.86	$2.37
Louisville Gas & Electric	10	29.86	$2.87
Detroit Edison	16	26.29	$2.21
Southern Indiana Gas & Electric	17	25.15	$4.28
Illinois Power	18	25.00	$3.80
Eastern Utilities Associates	19	24.44	$2.80
Central Maine Power	20	24.26	$2.51
Southern California Edison	26	21.25	$6.22
American Electric Power	27	20.20	$2.44
Florida Power Corporation	28	20.00	$2.64
Empire District Electric	29	18.96	$2.51
Gulf States Utilities	30	18.46	$2.31
Central Louisiana Electric	36	15.38	$2.85
Delmarva Power & Light	37	15.02	$2.45
Rochester Gas & Electric	38	14.96	$3.23
Tampa Electric	39	14.18	$3.14
Southern Company	40	13.45	$2.70
San Diego Gas & Electric	46	10.34	$3.20
Wisconsin Electric Power	47	10.28	$3.97
South Carolina Electric & Gas	48	10.10	$2.29
Public Service of New Mexico	49	9.63	$3.53
Otter Tail Power Company	50	9.59	$3.20
Toledo Edison	56	7.03	$3.50
Cincinnati Gas & Electric	57	6.91	$2.94
Iowa-Illinois Gas & Electric	58	6.33	$4.20
Dayton Power & Light	59	5.66	$2.80
Middle South Utilities	60	5.58	$2.46
Public Service Electric & Gas	66	4.94	$3.40
Niagara Mohawk Power	67	4.92	$2.77
Arizona Public Service	68	4.85	$3.46
Oklahoma Gas & Electric	69	4.28	$2.68
Ohio Edison	70	4.23	$2.22
Orange & Rockland Utilities	76	1.93	$2.64
Texas Utilities	77	1.30	$3.90
Carolina Power & Light	78	1.26	$3.21
Central Hudson Gas & Electric	79	0.77	$3.94
Hawaiian Electric	80	0.49	$4.12
Interstate Power	86	-2.44	$2.40
Montana-Dakota Utilities	87	-4.18	$3.90
Idaho Power	88	-4.46	$4.50
Washington Water Power	89	-4.73	$3.02
Pennsylvania Power & Light	90	-8.66	$3.06
Sierra Pacific Power	96	-22.73	$1.70
Nevada Power	97	-33.17	$2.74
Tucson Electric Power	98	-33.96	$5.37
Pacific Power & Light	99	-85.15	$0.45
Centel	100	N/A	N/A

SALES DATA

Company	1983 Total Sales (KWH) Rank	% Increase	Average Annual Growth 1978 – 1983	1983 Sales (KWH) By Type of Customer (% of Sales) Resid.	Comm.	Ind'l.	Other	Average Annual Residential Use 1983	1982	Ratio of Long Term Debt to Net Plant 1983	1982
Orange & Rockland Utilities	6	9.21	–0.30	30.8	20.2	27.2	21.8	6,174	5,827	42.1	43.1
Delmarva Power & Light	7	8.68	0.00	27.1	23.4	33.0	16.5	8,109	7,880	43.0	44.0
Iowa Resources	8	8.30	–0.42	41.0	24.5	32.1	2.4	9,201	8,279	42.6	43.4
Kansas City Power & Light	9	8.23	–0.69	31.1	40.1	23.3	5.5	8,774	7,764	88.5	81.1
Iowa-Illinois Gas & Electric	10	7.85	–0.23	25.2	26.4	42.5	6.9	6,877	6,027	35.4	37.9
Minnesota Power & Light	16	6.58	–2.36	10.3	8.8	61.1	19.8	7,874	7,926	43.0	47.7
Consolidated Edison	17	6.48	0.36	28.1	68.9	4.3	10.7	3,427	3,199	37.8	39.3
Niagara Mohawk Power	18	6.41	0.16	24.7	27.0	31.3	17.0	6,887	6,878	44.4	47.3
Illinois Power	19	5.96	0.59	27.6	17.4	43.7	11.4	8,671	8,051	41.6	41.2
Northern States Power	20	5.84	0.16	27.7	13.8	40.4	18.2	7,621	7,337	39.6	37.5
Public Service Electric & Gas	26	5.57	–0.13	27.3	38.2	32.9	1.5	5,602	5,156	71.7	42.6
Rochester Gas & Electric	27	5.55	–0.55	28.6	22.2	23.9	27.3	6,710	6,871	47.6	46.1
Southern Company	28	5.39	2.24	24.1	18.5	34.4	23.0	10,404	10,396	49.7	53.0
Duke Power	29	5.39	0.58	26.3	19.1	38.8	16.0	12,278	12,085	44.6	42.5
Central Hudson Gas & Electric	30	5.05	3.17	22.4	20.1	22.9	34.6	6,206	6,142	80.0	78.5
Consumers Power	36	4.69	–0.83	31.7	25.0	39.5	3.9	6,763	6,587	102.8	78.2
Public Service of New Hampshire	37	4.66	1.73	28.6	11.7	28.6	31.0	6,944	6,946	44.8	45.0
Atlantic Electric	38	4.64	1.56	43.5	34.5	20.9	1.0	7,715	7,444	42.7	43.9
Indianapolis Power & Light	39	4.48	–0.04	32.2	21.5	45.4	0.9	9,903	9,417	40.2	37.0
Wisconsin Public Service	40	4.46	2.24	26.5	23.4	31.0	19.1	7,163	7,025	34.4	34.6
Cincinnati Gas & Electric	46	3.64	1.33	35.6	23.6	31.1	9.7	9,889	9,570	46.8	48.5
Texas-New Mexico Power	47	3.46	4.26	27.0	20.2	49.6	3.2	9,757	10,322	41.5	42.5
Pennsylvania Power & Light	48	3.41	0.41	35.3	26.5	33.1	5.1	9,051	9,039	42.7	46.1
Commonwealth Edison	49	3.36	–1.50	30.3	31.6	27.1	10.9	6,798	6,310	43.2	47.3
United Illuminating	50	3.28	–1.01	35.4	35.9	27.2	1.5	6,336	6,213	38.6	44.1
Kentucky Utilities	56	2.79	0.27	31.7	19.4	18.0	30.9	10,724	10,304	39.6	42.4
El Paso Electric	57	2.76	–0.26	27.1	29.4	18.0	25.5	5,839	5,869	40.9	39.8
Idaho Power	58	2.10	3.30	21.4	20.5	24.4	33.7	14,066	14,939	43.2	43.6
Montana-Dakota Utilities	59	2.03	5.35	42.2	23.9	30.1	3.9	7,900	7,972	40.5	36.7
Hawaiian Electric	60	1.83	–0.35	27.9	22.0	24.7	25.4	6,752	6,815	39.2	39.4
Central Vermont Public Service	66	1.02	6.35	34.0	8.4	30.9	26.7	7,858	7,880	52.8	50.0
Southern California Edison	67	0.95	0.81	28.7	21.2	30.9	9.3	5,879	5,685	44.9	47.3
American Electric Power	68	0.75	0.59	23.0	14.7	31.7	30.6	10,098	9,898	50.3	54.5
Central Illinois Public Service	69	0.59	0.32	26.6	10.7	39.0	23.7	8,671	8,328	37.3	37.5
General Public Utilities	70	0.56	0.06	34.6	26.4	33.6	5.4	7,535	7,419	46.8	51.2
Gulf States Utilities	76	0.13	0.05	19.6	15.0	58.0	7.5	12,097	13,015	83.6	81.9
Public Service of Indiana	77	0.12	0.31	28.2	20.9	33.2	17.7	10,479	10,411	76.0	38.5
Otter Tail Power	78	–0.13	7.32	25.6	13.3	30.7	30.4	9,862	10,008	37.8	38.9
Washington Water Power	79	–0.20	0.84	32.4	18.7	15.0	33.8	14,166	15,221	54.1	47.3
San Diego Gas & Electric	80	–0.28	2.25	36.2	34.8	24.0	5.2	5,382	5,388	44.5	74.5
Arizona Public Service	86	–1.52	3.74	32.0	32.9	18.7	16.4	10,357	9,840	43.9	43.4
Central Illinois Light	87	–1.83	–2.54	34.7	23.5	39.4	2.4	8,676	8,384	40.3	38.0
Middle South Utilities	88	–2.01	–0.20	30.7	19	41.8	8.1	11,080	11,306	49.1	49.7
New York State Electric & Gas	89	–2.14	1.08	35.8		21.9	21.7	7,223	7,306	46.0	49.3
Houston Lighting & Power	90	–2.31	2.49	23.4	18.1	52.4	6.1	11,759	13,501	39.3	41.1
Savannah Electric & Power	96	–6.51	–0.28	41.2	30.1	24.8	3.9	10,148	10,019	49.2	58.2
Philadelphia Electric	97	–6.71	1.58	30.7	11.9	52.5	4.9	6,960	6,544	46.5	46.9
Puget Sound Power & Light	98	–7.32	2.85	48.3	25.2	15.9	10.6	13,970	15,143	49.3	47.7
Interstate Power	99	–7.91	2.48	24.3	17.6	51.0	7.1	7,373	7,055	48.5	49.3
Commonwealth Energy System	100	–10.01	–1.37	27.2	26.4	10.4	36.0	5,671	5,558	40.8	40.4

tivity began to pick up, but continued milder-than-normal (and milder than a year earlier) weather held total kWh sales gain to barely in-the-black numbers. However, a heat wave rolled across the country at the end of the second quarter and continued over into the third quarter, when warmer than normal summer weather was coupled with the continued improvement in the economy, especially in the Southeast and heavily industrialized Midwest, to bump both demand and energy sales upward. There was a moderation of growth during the first two months of the fourth quarter of the year, but then a frigid sweep of Arctic temperatures hit the country and pushed sales rapidly upward again to a new record.

TABLE I
THE TOP 10 IN KWH SALES

1	2	Southern Company	102,008	5.4
2	1	American Electric Power	98,271	0.8
3	4	Texas Utilities	62,710	3.9
4	6	Commonwealth Edison	61,217	3.4
5	3	Pacific Gas & Electric	60,012	–0.7
6	5	Southern California Edison	59,893	1.0
7	7	Houston Lighting & Power	55,228	–2.3
8	9	Duke Power	54,151	5.4
9	8	Middle South Utilities	50,422	–2.0
10	10	Florida Power & Light	48,589	3.2

Fourteen utilities reported sales gains in excess of the historic 7 percent rate. Seventy-seven reported positive changes in kWh sales, in sharp contrast to 1982 when 69 posted declines. Median change in 1983 was +3.22 percent, compared with a -1.97 percent change in 1982.

The 10 companies reporting the largest sales are shown in Table I.

Average residential use increased 1.5 percent in 1983, or 130 kWh. The total was 8607 kWh. Although the increase was small, it was substantially better than a year earlier, when the increase was a mere 9 kWh. Since average residential uses declined by 303 kWh in 1981, the 1983 residential usage remained some 175 kWh lower than in 1980.

As has been historically true, the companies reporting the highest average residential electrical usage lie in the Far West, where electricity costs are relatively low and in areas where heat and humidity combine to make summer weather miserable without air conditioning. Leaders, nationally, were: 1) Washington Water Power, 14,166 kWh (−6.9 percent); 2) Idaho Power, 14,066 kWh (−5.8 percent); 3) Puget Sound Power & Light, 13,970 kWh (−7.7 percent); Nevada Power, 13,445 kWh (−2.0 percent) and 5) Duke Power, 12,278 kWh (+1.8 percent).

Conversely, the utilities reporting the lowest average residential electrical usage were located where electricity rates were high. Those with the lowest uses were: 100) Consolidated Edison, 3427 kWh (+7.1 percent); 99) San Diego Gas & Electric, 5382 kWh (-1.1 percent); 98) Boston Edison, 5407 kWh (+3.5 percent); 97) Public Service Electric & Gas, 5602 kWh (+8.7 percent) and 96) Duquesne Light, 5752 kWh (+1.5 percent).

Revenues totaled $132.0 billion in 1983. This represents a gain of 7.0 percent. Although the increase was a solid one, it must be pointed out that it is the smallest revenue gain posted

by the Top 100 electric utilities in more than a decade. In 1982, revenues gained 9.5 percent and the year previous the increase was 20.3 percent. With kWh sales up just 2.2 percent, the majority of the revenue gain is the product of rate relief.

Only nine utilities reported decreases in revenues, all on flat or negative changes in kWh sales from 1982.

The largest revenue gains were reported by Kansas Power & Light (+78.5) on the strength of a 5.0 percent increase in sales; Central Illinois Power +24.9 percent) on essentially flat kWh sales from 1982; and Southern Indiana Gas & Electric (+22.7 percent) on sales increase of 26.1 per-

TABLE II
THE TOP 10
TOTAL REVENUES

1	1	Pacific Gas & Electric	$6.647	−2.0
2	2	Consolidated Edison	5.512	8.8
3	3	Southern Company	5.418	9.9
4	6	Commonwealth Edison	4.634	12.2
5	4	Southern California Edison	4.466	3.8
6	5	American Electric Power	4.368	4.5
7	7	Public Service Electric & Gas	3.963	
8	8	Houston Lighting & Power	3.524	1.3
9	9	Texas Utilities	3.486	7.7
10	10	Florida Power & Light	3.353	6.8

In addition, 32 companies reported total revenues in excess of $1-billion, but less than $3-billion.

cent. KP&L's increase came from a large increase in gas-revenues, although its electric revenues were off in 1983.

At the opposite end of the scale, the companies reporting the biggest revenue declines were: 100) Hawaiian Electric (-9.4 percent) on a small 1.6 percent increase in kWh sales; 99) Public Service of New Mexico (-6.8 percent) on a 6.0 percent decrease in kWh sales and 98) Montana-Dakota Utilities (-5.7 percent) on a 2.0 percent sales gain.

A total of 42 utilities reported company revenues in excess of $1 billion for 1983, the same as for 1982. The ten largest revenue producers are shown in Table II and are the same companies that led the nation a year ago. The first three utilities and the last four ranked the same in 1983 as in 1982. The others reflected small changes in rankings.

Although revenue gains in 1983 were the lowest in more than a decade, net incomes available for common shareholders increased substantially. In fact, the increase in net income for common, at 18.7 percent, was the third highest in a decade and serves as a testimonial to the effectiveness of the stringent cost control measures imposed by utility managements in the past year.

Overall, 89 utilities reported increases in net incomes for common, 10 suffered declines and one reported no data. A year ago, 88 utilities posted gains, 11 declines and one reported no data.

There remains a problem with net incomes, however, and that continues to be the size of the portion of net income represented by allowance for funds used during construction. In some cases, AFUDC, which is essentially a bookkeeping transaction, represents more than the total of net income for common. Since AFUDC does not generate any cash, companies with AFUDC greater than total

FINANCIAL STATISTICS

Company	Net Income Rank	Net Income % Gain	Revenue Rank	Revenue % Gain	Sales (KWH) Rank	Sales (KWH) % Gain	Int. Cov. Ratio 1983	Int. Cov. Ratio 1982	Earnings Per Share 1983	Price/Share 1983 (Dollars) High	Price/Share 1983 (Dollars) Low	% Change Long Term Debt 1983
Public Service of New Hampshire	6	70.8	48	8.1	37	4.7	2.85	1.86	$3.49	20.000	10.875	27.85
Kansas City Power & Light	7	67.2	20	11.7	9	8.2	5.71	3.54	$4.15	22.500	16.750	9.97
Missouri Public Service	8	64.9	10	15.5	15	6.8	2.84	2.06	$3.05	18.000	13.250	−14.38
Iowa Public Service	9	52.6	73	4.5	65	1.1	2.08	1.49	$3.31	27.000	21.500	−1.59
Eastern Utilities Associates	10	49.7	69	4.9	45	3.8	2.46	1.85	$2.80	18.375	13.875	28.30
Gulf States Utilities	16	42.3	30	9.9	76	0.1	1.81	0.96	$2.31	16.250	12.375	15.31
Union Electric	17	39.2	11	15.1	13	7.6	1.87	1.49	$2.66	16.250	12.250	5.38
Commonwealth Edison	18	37.2	18	12.2	49	3.4	1.77	1.26	$4.39	29.250	24.500	0.28
Illinois Power	19	34.9	9	15.5	19	6.0	3.41	2.74	$3.80	24.125	19.375	10.67
Central Illinois Public Service	20	34.4	2	24.9	69	0.6	2.20	4.10	$2.33	17.125	13.750	−1.00
Montana Power	26	31.8	94	−1.9	94	−5.7	1.49	1.21	$4.22	30.375	25.125	7.42
Florida Power Corporation	27	31.2	25	10.5	22	5.6	1.94	1.45	$2.64	21.500	18.375	−0.37
Kansas Gas & Electric	28	30.5	19	12.0	72	0.3	4.78	3.79	$3.08	21.375	16.500	22.72
Duquesne Light	29	30.4	56	7.2	81	−0.4	1.46	1.21	$2.20	18.250	13.000	10.54
Iowa Resources	30	28.7	6	18.7	8	8.3	2.98	2.43	$4.46	29.575	24.500	0.85
Rochester Gas & Electric	36	27.3	22	10.9	27	5.6	4.79	3.81	$3.23	18.500	17.250	19.57
Wisconsin Public Service	37	27.2	51	7.8	40	4.5	3.32	2.28	$3.89	30.500	22.250	−4.11
Public Service of New Mexico	38	26.8	99	−6.8	95	−6.0	2.00	1.98	$3.53	29.625	22.750	20.04
Indianapolis Power & Light	39	26.8	54	7.5	39	4.5	3.19	2.52	$4.17	30.625	25.625	19.10
Ohio Edison Company	40	25.5	66	6.0	63	1.3	0.93	0.69	$2.22	16.125	12.250	6.28
Consumers Power	46	22.4	37	9.1	36	4.7	1.44	1.23	$3.12	21.875	13.125	12.75
San Diego Gas & Electric	47	21.9	60	6.9	80	−0.3	3.16	2.35	$3.20	22.000	17.000	32.02
Middle South Utilities	48	21.7	86	2.2	88	−2.0	1.20	0.99	$2.46	16.750	13.125	13.61
Cleveland Electric Illuminating	49	21.6	36	9.2	53	2.9	2.77	2.51	$3.28	23.000	16.625	5.34
South Carolina Electric & Gas	50	21.4	8	15.6	31	5.0	2.94	2.22	$2.29	21.250	17.500	−7.68
Consolidated Edison	56	18.5	40	8.8	17	6.5	5.48	4.25	$4.16	25.875	19.000	−1.78
Northern States Power	57	18.2	43	8.6	20	5.8	4.26	3.70	$5.60	40.750	29.750	8.18
Wisconsin Power & Light	58	17.4	46	8.4	4	10.9	4.49	3.44	$3.97	29.125	23.000	−2.63
Niagara Mohawk Power	59	17.0	26	10.0	18	6.4	1.97	1.97	$2.77	18.500	15.250	6.55
Southwestern Public Service	60	16.0	5	19.5	23	5.6	3.10	2.97	$2.39	19.750	15.625	6.05
Washington Water Power	66	14.6	97	−2.3	79	−0.2	5.88	4.63	$3.02	22.750	18.500	26.40
Cincinnati Gas & Electric	67	14.6	44	8.6	46	3.6	2.09	1.99	$2.94	19.375	11.875	2.52
Central & South West	68	14.2	34	9.3	73	0.2	2.97	2.82	$3.02	20.750	16.375	7.84
Otter Tail Power	69	13.8	78	3.5	78	−0.1	2.86	2.35	$3.20	25.875	21.250	−1.84
Minnesota Power & Light	70	13.6	81	2.7	16	6.6	2.59	2.32	$3.82	27.875	23.250	−0.03
Utah Power & Light	76	9.8	35	9.3	74	0.2	2.00	1.70	$2.39	25.000	20.750	−4.34
Duke Power	77	9.7	38	9.1	29	5.4	2.92	2.64	$3.77	26.375	21.750	1.24
New York State Electric & Gas	78	8.8	75	4.2	89	−2.1	1.81	1.96	$3.06	22.875	19.125	12.12
Central Illinois Light	79	8.5	33	9.4	87	−1.8	3.46	3.42	$2.87	23.000	18.630	−0.02
Idaho Power	80	8.1	85	2.3	58	2.1	2.88	2.47	$4.50	34.875	28.500	3.58
Puget Sound Power & Light	86	4.5	23	10.9	98	−7.3	1.68	1.46	$1.93	16.500	13.125	9.91
Hawaiian Electric	87	4.3	100	−9.4	60	1.6	2.27	1.58	$4.12	33.875	27.250	1.16
Florida Power & Light	88	1.3	64	6.8	51	3.2	2.16	2.10	$5.02	42.250	35.000	7.76
Interstate Power	89	0.9	67	5.9	99	−7.9	2.65	2.50	$2.40	18.000	15.375	−0.13
Centel	90	0.0	4	21.4	33	4.9	N/A	N/A	N/A	N/A	N/A	N/A
Sierra Pacific Power	96	−12.0	74	4.4	93	−4.9	1.63	1.47	$1.70	15.500	13.125	21.11
Portland General Electric	97	−16.3	96	−1.9	92	−4.1	1.35	1.58	$1.87	16.625	13.125	−5.41
Nevada Power	98	−19.7	61	6.9	84	−1.2	1.67	2.16	$2.74	30.000	26.000	−9.28
Tucson Electric Power	99	−32.2	62	6.9	91	−3.0	4.03	6.51	$5.37	40.250	24.625	60.44
Pacific Power & Light	100	−63.8	14	13.7	85	−1.3	0.97	1.40	$0.45	25.500	20.000	3.35

ALPHABETICAL LISTING OF COMPANY PERFORMANCES

Company	Electric Sales Rank	Electric Sales KWH Sales (millions)	Customers Served Electric Total (1,000's)	Electric % Gain	Customers Served Gas Total (1,000's)	Gas % Gain	Revenues Total (1,000's)	Revenues % Electric	Revenues % Gas	Net Income After Tax (1,000's)
Boston Edison	48	12,929	623	1.28	0	0.00	$1,089,285	94.58	4.05	$ 55,575
Carolina Power & Light	18	30,886	798	3.09	0	0.00	$1,647,183	100.00	0.00	$194,864
Central & South West	11	46,526	1,486	2.56	0	0.00	$2,612,634	97.98	2.02	$287,372
Central Hudson Gas & Electric	78	5,282	219	1.07	48	0.89	$ 473,738	86.92	13.08	$ 34,483
Central Illinois Light	67	4,110	184	-0.22	183	-0.35	$ 526,857	55.08	44.92	$ 37,797
Cincinnati Gas & Electric	40	14,997	607	1.22	366	0.04	$1,369,428	63.41	36.59	$121,098
Cleveland Electric Illuminating	37	16,837	713	0.23	0	0.00	$1,210,316	98.67	0.00	$207,600
Commonwealth Edison	4	61,217	2,991	0.88	0	0.00	$4,634,021	100.00	0.00	$694,598
Commonwealth Energy System	79	4,746	287	3.24	202	1.00	$ 619,856	57.60	39.74	$ 39,127
Consolidated Edison	16	31,689	2,774	0.54	1,018	0.07	$5,515,624	79.81	13.92	$536,832
Duke Power	8	54,151	1,357	2.64	0	0.00	$2,472,030	98.95	0.00	$368,677
Duquesne Light	51	10,990	556	-0.19	0	0.00	$ 800,345	99.08	0.00	$122,815
Eastern Utilities Associates	85	4,201	233	1.05	0	0.00	$ 302,460	96.55	0.00	$ 26,364
El Paso Electric	89	3,752	198	3.87	0	0.00	$ 302,443	99.64	0.00	$ 78,760
Empire District Electric	95	2,696	103	1.94	0	0.00	$ 116,079	99.54	0.00	$ 11,873
Houston Lighting & Power	7	55,226	1,274	5.39	0	0.00	$3,523,745	100.00	0.00	$291,294
Idaho Power	42	14,476	285	1.62	0	0.00	$ 376,144	100.00	0.00	$ 72,164
Illinois Power	41	14,811	530	0.62	382	-0.16	$1,278,259	61.85	38.15	$184,096
Indianapolis Power & Light	86	9,278	339	1.02	0	0.00	$ 427,542	94.17	0.00	$ 74,216
Interstate Power	90	3,751	156	0.57	45	0.69	$ 297,665	67.33	32.67	$ 20,321
Kansas Gas & Electric	66	7,261	239	1.54	0	0.00	$ 393,053	99.70	0.00	$ 92,027
Kansas Power & Light	64	7,705	283	1.43	986	840.65	$ 859,572	47.36	52.64	$ 75,293
Kentucky Utilities	52	10,605	373	1.59	0	0.00	$ 511,624	99.57	0.00	$ 63,740
Long Island Lighting	44	13,843	928	1.16	401	0.56	$1,787,851	80.32	19.68	$287,163
Louisville Gas & Electric	60	7,952	299	0.49	233	0.04	$ 637,684	63.87	36.16	$ 50,232
Montana Power	67	7,215	236	1.74	102	0.13	$ 488,776	42.30	29.81	$ 80,206
Nevada Power	76	5,687	214	4.31	0	0.00	$ 306,336	100.00	0.00	$ 31,015
New England Electric System	36	17,024	1,102	1.51	0	0.00	$1,373,878	96.95	0.00	$132,619
New York State Electric & Gas	49	12,285	664	1.19	130	0.29	$ 993,589	79.08	20.92	$133,214
Niagara Mohawk Power	14	34,732	1,392	0.87	433	0.46	$2,632,315	76.88	23.12	$270,300
Orange & Rockland Utilities	88	3,796	215	1.71	92	2.34	$ 526,045	71.15	28.55	$ 31,812
Otter Tail Power	92	3,597	122	0.73	0	0.00	$ 163,134	100.00	0.00	$ 17,179
Pacific Gas & Electric	5	60,012	3,594	1.36	2,949	1.17	$6,646,899	58.76	41.24	$628,143
Pacific Power & Light	26	24,404	650	-1.09	0	0.00	$1,598,400	54.97	0.00	$ 25,500
Pennsylvania Power & Light	27	23,057	1,026	1.24	0	0.00	$1,248,397	99.62	0.00	$210,173
Public Service of New Hampshire	71	6,351	302	2.91	0	0.00	$ 463,484	98.12	0.00	$118,362
Public Service of New Mexico	73	6,105	233	4.85	0	0.00	$ 397,474	98.61	0.00	$116,332
Public Service Electric & Gas	19	30,770	1,719	0.78	1,330	0.81	$3,982,932	64.86	35.14	$331,545
Puget Sound Power & Light	39	14,998	588	2.94	0	0.00	$ 518,511	100.00	0.00	$ 76,581
Rochester Gas & Electric	70	6,723	297	1.36	233	1.25	$ 766,051	61.32	36.65	$ 75,733
Southern Company	1	102,008	2,724	2.42	0	0.00	$5,418,043	99.13	0.00	$590,326
Southern Indiana Gas & Electric	82	4,538	106	1.47	64	1.24	$ 276,727	69.77	30.23	$ 24,778
Southwestern Public Service	45	13,588	342	9.50	0	0.00	$ 761,742	99.63	0.00	$ 90,023
Tampa Electric	53	10,527	365	4.27	0	0.00	$ 653,893	99.39	0.00	$ 70,314
Texas-New Mexico Power	77	5,521	182	4.39	0	0.00	$ 361,298	99.97	0.00	$ 11,348
Utah Power & Light	35	17,271	479	2.07	0	0.00	$ 854,898	99.85	0.00	$123,535
Washington Water Power	57	8,977	230	1.03	76	-0.16	$ 338,812	63.59	35.59	$ 55,888
Wisconsin Electric Power	33	17,777	822	0.40	221	1.47	$1,417,564	75.51	23.74	$134,870
Wisconsin Power & Light	62	7,730	311	1.27	106	1.32	$ 555,502	73.17	26.22	$ 49,624
Wisconsin Public Service	69	7,113	293	1.41	155	1.05	$ 629,891	61.79	38.21	$ 45,620

net incomes can find themselves in cash short positions and can pay dividends only through borrowing or through sales of assets. This problem is especially difficult for companies currently engaged in large construction programs, especially if nuclear plants are involved.

Median net income increase in 1983 was 7.9 percent and was posted by Dayton Power & Light. Last year the median net income gain was 11.1 percent. In 1981 it hit 22.6 percent.

Average earnings per share increased 8.1 percent in 1983, to $3.24 per share. In 1982, the average share earning was $3.00 and in 1981 was $2.82. The increase, 8.1 percent, was ahead of the 6.4 percent reported in 1982, but was below that posted in 1981, 11.9 percent.

TABLE III
THE TOP 10 NET INCOME AVAILABLE FOR COMMON STOCK

1	2	Commonwealth Edison	$694.6	37.2
2	1	Pacific Gas & Electric	628.1	-4.5
3	3	Southern California Edison	617.3	27.7
4	4	Southern Company	590.3	25.0
5	5	Consolidated Edison	536.8	19.5
6	8	Texas Utilities	461.5	7.7
7	6	American Electric Power	428.0	27.7
8	9	Middle South Utilities	378.1	21.7
9	7	Duke Power	368.7	9.7
10	10	Public Service Electric & Gas	331.5	14.7

The gain in the average earnings last year, $0.24, represents *one-half* the total dollar gain achieved from 1972 through 1982 ($0.48). The gain per average share amounted to only 19 percent over the entire 11-year period or 1.7 percent per year in current year dollars. Thus, the average-share performance in 1983 stands up well by comparison.

For 1983, 82 companies reported gains in per-share earnings from the previous year, while 17 utilities posted declines. This represents a small improvement from 1982, when 77 companies recorded gains and 22 declines.

For the 99 companies providing earnings data (Centel provided no earnings information), the median change was a 9.63 gain, compared with a 10.2 percent increase in 1982 and 10.4 percent in 1981.

As is typical when ranking performances based on relative improvement, those organizations coming off poor performances a year earlier tend to rise to the top of the list. The majority of those companies recording the highest per-share earnings improvements in 1983 tended to be at or near the bottom of the rankings a year previous. Six of the ten utilities of the top of this year's earnings gain ranking, and seven of the top 25, were among the 10 poorest performers in 1982. One company—General Public Utilities—ranked third again in 1983, the same as it ranked in 1982, reflecting the strong efforts of its management to rebuild the financial foundations of the company in the wake of the 1979 TMI-2 accident and the reluctance of the NRC to allow it to operate TMI-1. In total, six of this year's top 25 were in the top 25 last year, four moved up into the upper quarter from the second quarter a year ago and eight moved up from the third quarter.

Three companies reported earnings declines for the second straight year.